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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,960	09/18/2003	Xiaoru Wang	82215ASMR	8319

7590

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Paul A. Leipold  
Patent Legal Staff  
Eastman Kodak Company  
343 State Street  
Rochester, NY 14650-2201

EXAMINER
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SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 09/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/665,960

**Applicant(s)**

WANG ET AL.

**Examiner**

Callie E. Shosho

**Art Unit**

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,9 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

**Continued Examination Under 37 CFR 1.114**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/3/06 has been entered.
2. It is noted that applicants' amendment filed 6/5/06, which was previously not entered, has now been entered.

**Claim Rejections - 35 USC § 112**

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:  

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
4. Claims 1, 3-7, and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 recites, “wherein essentially no monomer is present in the aqueous pigment mixture”.

The cited phraseology clearly signifies a “negative” or “exclusionary” limitation for which the applicants have no support in the original disclosure. Negative limitations in a claim which do not appear in the specification as filed introduce new concepts and violate the description requirement of 35 USC 112, first paragraph, *Ex Parte Grasselli, Suresh, and Miller*, 231 USPQ 393, 394 (Bd. Pat. App. and Inter. 1983); 783 F. 2d 453.

The insertion of the above phraseology as described above positively excludes monomer from the aqueous pigment mixture, however, there is no support in the present specification for such exclusion.

As support for such amendment, applicants point to page 6, lines 15-18 of the present specification which discloses “under prior art method either no initiator is used or, where used, it is added to the colorant mixture with monomer and not, as in the present invention, initiator without monomer is added before adding the monomer mixture”.

However, this portion of the present specification refers to the initiator having no monomer not the aqueous pigment mixture. The “without monomer” appears to refer to the initiator and not the aqueous pigment mixture. That is, this portion of the specification discloses that the initiator alone, i.e. without monomer, is added to the aqueous color mixture. It does not disclose that the aqueous pigment mixture is without monomer. Thus, while this portion of the specification as originally filed provides support to recite that the initiator is without monomer, it does not provide support to recite that there is no monomer present in the aqueous pigment mixture.

Applicants also point to page 6, lines 1-6 of the present specification as support for the recitation of the above cited phrase. This portion of the specification discloses process wherein first portion of the initiator is added to aqueous colorant mixture before introducing a monomer mixture which is used to form the polymer phase of the colored composite particles. Applicants argue that this portion of the present specification makes clear that no monomer can be present in the aqueous colorant mixture when the polymerization initiator is added.

However, while this portion of the present specification discloses that a portion of the initiator is added to aqueous colorant mixture before adding a monomer mixture, it is noted that this does not provide support to recite that there is “essentially no monomer” present in the aqueous colorant mixture. There is no disclosure regarding the presence or absence of monomer in the aqueous colorant mixture. While there is no disclosure in the specification as originally filed that the aqueous colorant mixture comprises monomer including the examples wherein no monomer is utilized in the aqueous colorant mixture, it is noted that as stated in MPEP 2173.05(i), the “mere absence of a positive recitation is not the basis for an exclusion.”

Applicants also point to page 6, lines 9-14 of the present specification which recites that the present invention uses a special sequence of adding the initiator. However, there is no disclosure in this portion of the specification that “essentially no monomer” is present in the aqueous colorant mixture.

Further, specifically with respect to the recitation of the phrase “essentially”, it is the examiner’s position that this phrase fails to satisfy the written description requirement under the cited statute since there does not appear to be a written description requirement of the phrase in the application as originally filed, *In re Wright*, 866 F.2d 422, 9 USPQ2d 1649 (Fed. Cir. 1989)

and MPEP 2163. Applicant has not pointed to any portion of the specification, and examiner has not found any support for this phraseology in the specification as originally filed.

It is noted that in the amendment filed 1/26/06, applicants amended claim 1 to recite “wherein no monomer is present in the aqueous pigment mixture”. Subsequently, in the amendment filed 6/5/06 that has now been entered, applicants inserted the phrase “essentially” into claim 1, i.e. “wherein essentially no monomer is present in the aqueous pigment mixture”. However, it is the examiner’s position there is no support in the specification as originally filed to recite “essentially” no monomer.

**Claim Rejections - 35 USC § 112**

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1, 3-7, and 9-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) Claim 1 recites “wherein essentially no monomer is present in the aqueous pigment mixture”. The scope of the claim is confusing because it is not clear what is meant by “essentially” no monomer or how much monomer this encompasses. Further, it is not clear how the phrase “essentially no monomer” is different than previously recited phrase “no monomer”.

(b) Newly added claim 10 recites “wherein sequential addition of initiator to the pigment mixture essentially prior to adding monomer mixture”. The scope of the claim is confusing because it is not clear what “essentially” prior means. Clarification is requested

**Claim Rejections - 35 USC § 102**

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by Lin (U.S. 5,281,261).

Lin discloses composite colorant polymer particles, i.e. modified pigment particle, obtained by polymerizing at least one monomer in the presence of colorant *in situ* using emulsion polymerization. The monomers include sodium styrene sulfonate salt. The colored resin particles have average particle size of less than 1  $\mu\text{m}$ . The ratio of colorant to polymer is 1:9 to 9:1. The polymer is formed by mixing initiator and pigment dispersion, i.e. pigment, dispersant, water, to which is added monomer and initiator. It is significant to note that Lin discloses that the free radical initiator reacts with the pigment to form a pigment radical which then polymerizes the monomer. Further, attention is drawn to example VIB (col.18, lines 17-56) wherein Lin discloses adding (i) mixture of water, pigment, monomer, and initiator to (ii) mixture of monomer and initiator. Thus, in the example, a portion of the initiator is added to aqueous colorant mixture, i.e. comprising pigment, monomer, and initiator, before adding a monomer mixture, i.e. monomer and initiator. Therefore, there is disclosed sequential addition of

initiator to pigment prior to adding the monomer. While there is monomer present in the pigment mixture, it is noted that there is nothing in the scope of the present claims (with the exception as disclosed in the next paragraph) that excludes the pigment mixture from comprising monomer (col.1, lines 8-22 and 40-44, col.5, line 65-col.6, line 46, col.7, lines 40-42, col.8, lines 65-66, col.9, lines 15-26 and 57-65, col.10, lines 4-15, col.12, lines 54-59, and col.13, lines 10-16 and 54-59). There is no explicit disclosure that the composite colorant polymer particles are stable, i.e. do not flocculate for up to 20 minutes when a dispersion containing the particles is added to acetone at 1% by weight, as presently claimed. However, given that Lin discloses composite colorant polymer particles identical to that presently claimed, it is clear that the composite colorant polymer particles would inherently possess same stability as presently claimed.

It is noted that the present claims recite “consisting essentially of” transitional language with respect to the aqueous colorant mixture, i.e. “consisting essentially of colorant particles, dispersant or surfactants, and water”. While Lin discloses that the aqueous colorant mixture contains monomer, on the one hand, it is noted that while it is recognized that the phrase “consisting essentially of” narrows the scope of the claims to the specified materials and those which do not materially affect the basic and novel characteristics of the claimed invention, absent a clear indication of what the basic and novel characteristics are, “consisting essentially of” is construed as equivalent to “comprising”. Further, the burden is on the applicant to show that the additional ingredients in the prior art, i.e. monomer, would in fact be excluded from the claims and that such ingredients would materially change the characteristics of the applicant’s invention, See MPEP 2111.03.



On the other hand, it is significant to note that in example VIB of Lin, for instance, it is disclosed that in the aqueous colorant mixture the monomer is utilized as a wetting agent to disperse pigment, i.e. functions as a dispersant, and thus, the monomer in the aqueous colorant phase of Lin would fall within the scope of the present claims, i.e. aqueous colorant mixture of Lin contains only water, pigment, and dispersant (monomer).

In light of the above, it is clear that Lin anticipates the present claims.

**Response to Arguments regarding 1.132 declaration**

9. Applicants filed 1.132 declaration on 1/26/06 in order to show that the additional ingredients, i.e. monomer, found in the pigment mixture of Lin would materially affect the basic and novel characteristics of the claimed invention and thus, fall outside the scope of the “consisting essentially of” transitional language recited in the claims with respect to the pigment mixture. Given that the declaration is relevant to newly added present claim 10 which also recites “consisting essentially of” transitional language with respect to the pigment mixture, the declaration is discussed below.

In the office action mailed 4/11/06, the examiner noted that the declaration discloses preparation of composite colorant particles by mixing magenta pigment dispersion, monomer, and initiator and then adding water, monomer, and initiator. It was shown that the resulting composite colorant particles are only stable for 6 minutes which is in direct contrast to the present claims that require that the particles do not flocculate for up to 20 minutes.

It was the examiner’s position that the declaration was not commensurate in scope with the prior art, Lin. It was noted that the “consisting essentially of” claim language set forth in the

present claims is with respect to the aqueous pigment mixture while the prior art Lin discloses utilizing monomer in the aqueous pigment mixture. Given that the examiner previously argued that absent a clear indication of what the basic and novel characteristics are, “consisting essentially of” is construed as equivalent to “comprising”, the burden was on applicant to show that the use of monomer in the aqueous pigment mixture is in fact outside the scope of the “consisting essentially of” transitional claim language. However, the declaration did not prepare composite colorant particles comprising monomer in the aqueous pigment mixture. Rather, the declaration adds monomer (and initiator) to an already prepared pigment dispersion. Thus, contrary to the “closest” prior art Lin, the monomer is not in the aqueous pigment mixture. It is not clear what, if any, difference this would have on the stability results.

Thus, given that the declaration did not include monomer in aqueous pigment mixture but rather added the monomer after the formulation of the aqueous pigment mixture, it was the examiner’s position that the declaration has not shown (i) that the inclusion of monomer in the aqueous pigment mixture is excluded from the scope of the present claims that recite “consisting essentially of” claim language with respect to the aqueous pigment mixture and (ii) the use of monomer in the aqueous pigment dispersion would materially change the characteristics of the applicant’s invention.

In response in the amendment filed 6/5/06, applicants argue that while Lin utilizes hydrophilic monomer such as sodium styrene sulfonate, the polymer of the present invention is mostly hydrophobic and that it would not matter whether the monomers used in the present

examples were added during or after preparation of the pigment dispersion in contrast to the monomer used by Lin.

However, while it is agreed that Lin utilizes monomer such as sodium styrene sulfonate, it is noted that such monomer is within the scope of the present claims (see claim 3). Further, while applicants argue that it would not matter when the monomer of the present invention is added to the pigment dispersion, there is no evidence that adding the monomer of Lin, which falls within the scope of the present claims, to already prepared pigment dispersion (as disclosed in the declaration) instead of using pigment dispersion that already includes the monomer (as disclosed by Lin) would not affect the stability results.

Applicants argue that given that polymers used in Lin are primarily hydrophilic, they would not pass the Dry Rub or Wet Rub tests used in Table 3, page 20 of the present specification. Further, applicants argue that such polymers of Lin would not pass the stability test as required in the present claim.

With respect to the former, it is noted that there is no requirement in the present claims regarding the type of polymer utilized with the exception of present claim 3. Given that Lin discloses monomers as required in present claim 3, it is clear that Lin meets the requirements of the present claims with respect to the polymer. Thus, it is not clear why such polymer which falls within the scope of the present claims would not pass Dry Rub or Wet Rub tests. Further, while applicants argue that such polymer would not pass such tests, it is noted that applicants have offered no evidence to support this position. Further, there is nothing in the scope of the present claims that requires the polymer to pass a Dry Rub or Wet Rub test. With respect to the later, it is

noted that there is no proper evidence that establishes that the such polymers of Lin would not pass the stability test as required in the present claim.

Applicants also argue that in the present invention, the initiator can go to the surface of the pigment first and the monomer mix grows attached to the pigment via initiator while in Lin, the monomers go to the surface of the pigment and the initiator is later dissolved in the aqueous carrier.

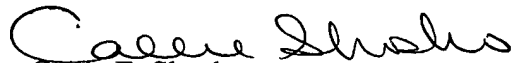
However, attention is drawn to col.9, lines 57-61 of Lin that discloses that the free radical initiator reacts with the pigment to form a pigment radical which is then polymerizes the monomer.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1714

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Callie E. Shosho  
Primary Examiner  
Art Unit 1714

CS  
9/2/06